



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/584,585 | 05/31/2000 | Howard Roy Stuart | 148-026 (Stuart 3) | 4650 |

7590 12/03/2002

Kenneth F Florek Esq
Hedman Gibson & Costigan PC
1185 Avenue of the Americas
New York, NY 10036

EXAMINER

VY, HUNG T

ART UNIT

PAPER NUMBER

2828

DATE MAILED: 12/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/584,585

Applicant(s)

STUART, HOWARD ROY

Examiner

Hung T Vy

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.


- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31/5/2000 through 10/30/2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 15-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 15-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.


PAUL IP
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05/31/2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other: _____

DETAILED ACTION

1. In response to the communications dated ~~05/31/2000~~ through 10/30/ 2002, claims 1-13 and 15-30 are pending in this application as a result of the addition of claim 30 and the cancellation of claims 14.

Double Patent

Claims 1,28, 29 and 30 are objected to under 37 CFR 1.75 as being a substantial duplicate of claim 1. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 1 – 13 and 15-30 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, 18 and 30 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: optical structure for processing optical energy, and generating the laser.

Claim 1, 18 and 30 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: relation among the metal, plurality of voids.

Claims 1 – 13 and 15-30 are confusing, vague and indefinite.

The claims recite an optical device without the recitation of any structure to support the optical device. The claims recite a metal layer having a first surface comprising a plurality of voids having a dimension less than the wavelength of optical energy being provided which fail to define any optical structure. The claims recite no more than a metal layer or a plate having a plurality of holes, which the metal layer is similar

Art Unit: 2828

to a drill hole guide. The claims fail to provide any structural support for an optical structure for processing optical energy as recites in claims. What is the optical structure? For example photodiode, lenses are optical structure. What is optical energy? What is an active or non-linear material? How do an optical structure fix into the device? The claims fail to define the optical structure of the invention.

Claim 17 further recites a lesser, an LED, a wavelength converter, a sensor or a switch. The claim fails because the structure is not related to invention.

Claims 18 – 28 recite a method for optical process without the recitation of any means or structure and steps for performing the optical process. The claims recite no more than a metal layer with one or more voids. It is not clear how a metal layer is used for processing an optical function. The claims fail to provide any method steps for performing the optical process.

Claims 28-30 further recites an LED and a optical switch structure. The claim fail to recite any laser, LED, or optical switch structure to suppose the laser, LED or optical switch as recited in the claims.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2828

4. Claims 1-13 and 15-30 are rejected under 35 U. S. C. § 102 (b) as being anticipated by Kim et al., Patent No. 6,040,936.

Regarding claim 1 and 10, Kim et al. disclose an optical structure for processing optical energy comprising a metal layer (10) having a first surface comprising a plurality of voids (12) having a dimension less than the wavelength of optical energy being processed (See column 3 – line 59 –65) and active or non-linear material operatively associated with at least a portion of the plurality of voids (See column 5, line 26-33).

Regarding claims 2-4, Kim et al. disclose the structure wherein said voids are cylindrical holes passing through said metal layer (See Fig 1).

Regarding to claims 5 and 9, Kim et al. disclose the structure wherein voids have a diameter of from about 10 nm to about 1 micro (See column 9, line 22) and metal layer is greater than 50 nm thick (see column 9. line 21)

Regarding claim 6, Kim et al. disclose the structure wherein said voids are arranged in an ordered array (See column 3, line 34 – 37).

Regarding claims 7-8, Kim et al. disclose the structure wherein said voids are arranged in a triangular array (See column 5, line 4-7) and voids arranged in an ordered array produce a phase-matched effect.

Regarding claims 10-16, Kim et al. disclose the structure where active or non-linear material is placed adjacent the voids, in side the voids, in the form of a layer on top of metal layer (See column 5, line 50-68).

With respect to claims 18-27, the methods for optical processing are considered as product by process steps.

Art Unit: 2828

Regarding claims 17, and 29-30, It is inherent that the structure which is in the form of a laser an LED, a wavelength converter, sensor or a switch.

Citation of Pertinent References

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The patent to Pope discloses Photoluminescenty/electroluminescent Display Screen, U.S. Patent No. 6,218,774.

The patent to Salerno et al. disclose Transferred Single Crystal Arrayed Devices Including A light Shield For projection dsplays, U.S. Patent No. 5,475,514.

The patent to Biegelsen et al. disclose Fabrication of Quantum confinement semiconductor light-emitting devices, U.S. Patent No. 5,607,876.

Conclusion

6. When responding to the office action, Applicants are advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the day of this letter. Failure to respond within the period for response will cause the application to become abandoned (see M.P.E.P 710.02(b)).


Art Unit: 2828

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung VY whose telephone number is (703) 605-0757. The examiner can normally be reached on Monday-Friday 8:30 am - 5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul IP can be reached on (703) 308-3098. The fax numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Hung T. Vy
Art Unit 2828

November 14, 2002


PAUL IP
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800